An Introduction to the FlyBy Math Simulator

[The title screen is shown.]
Welcome to the FlyBy Math simulator.

[The full simulator window is shown as it appears when the simulator is first opened. In the Jet Route Panel on the left of the simulator, two routes and two planes are shown. In the Graph Panel in the center of the simulator, the corresponding distance versus time graphs are shown. In the Equation Panel on the right of the simulator, the corresponding linear equations are shown.]
The FlyBy Math simulator has three linked panels to help you analyze the movement of two planes on their jet routes.

[The Play button is clicked. The planes begin to move. The graph begins to trace.]
You can look down on the planes as they fly along their routes, see a distance versus time graph for each plane, see an equation for each line on the graph.

[In the Jet Route Panel, at zero seconds, the WAL27 plane is dragged back and forth along its route. In the Graph Panel, the dot on the WAL27 graph is highlighted. In the Equation Panel, in the WAL27 equation, the value of b is highlighted. In the Graph Panel, at zero seconds, the NAL63 line is rotated about its y-intercept. As the slope of the line changes, the corresponding slope is displayed. In the Jet Route Panel, the NAL63 speed menu is highlighted. In the Equation Panel, in the NAL63 equation, the value of m is highlighted.]
When you change a position or speed in one panel, the simulator automatically updates the other panels.

[The words "time" and "distance" are superimposed across the screen shot.]
Each panel shows the relationship between two key quantities: time and distance. Time: how long has a plane been flying? Distance: how far is a plane from the start of its route?

[In the Jet Route Panel, the cursor points out the clock and the distances along the routes.]
In the Jet Route Panel, time is shown on the clock, from zero to sixty seconds. Distance is shown along the routes, from zero to twenty feet.

[the Graph Panel, the cursor points out the x-axis and the y-axis.]
In the Graph Panel, time is shown along the x-axis, from zero to sixty seconds. Distance is shown along the y-axis, from zero to twenty feet.

[In the Equation Panel, the cursor points out first x, then y in each equation.]
In the Equation Panel, time is represented by the variable x. Distance is represented by the variable y.

[The simulator is shown with the original problem paused at 10 seconds. In the Jet Route Panel, the cursor points out the clock at 10 seconds and the nose of the NAL63 plane at 5 feet.]
Let's look at the NAL63 plane. On its jet route, at ten seconds, the nose of the plane is at five feet.

[The cursor moves horizontally from the nose of NAL63 across to the corresponding point in the Graph Panel. An equation is superimposed.]

On the graph, at ten seconds, the corresponding point, x comma y, equals ten seconds comma five feet.

[The cursor moves across to the Equation Panel. An equation is superimposed.]
In the equation, if x is ten, then y equals one-half times ten equals five.

[The Help button is highlighted.]
The Help button gives more information.